

Remarks/Arguments:

Claims 1-7 are pending in the instant application. In the Office Action dated March 19, 2003, the Examiner has objected to the Oath as originally filed. The Examiner has also rejected claims 1-4, 6 and 7 under 35 U.S.C. § 112, second paragraph, as indefinite. The Examiner has further rejected claim 1 under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 5,778,075 to Haartsen (hereinafter, Haartsen), and has rejected claims 2-5 under 35 U.S.C. § 103(a) as being obvious over Haartsen in view of U.S. Patent No. 5,737,358 to Ritz et al (hereinafter, Ritz). Applicant will address the objections/rejections in the order advanced in the Office Action.

1. Oath/Declaration:

Attached hereto is a new Oath/Declaration signed to replace the one previously submitted.

2. Rejections under 35 U.S.C. § 112:

Claim 1 is herein amended to clarify the language cited as confusing. Claims 6 and 7 are herein amended to recite that “n” is an even integer so that the number “n/2” noted elsewhere in the claims remains an integer. In the Office Action, the Examiner inquired as to whether the first and second subsets of claims 6 and 7 are the same thing. Applicant asserts that the claim terminology employed renders the first and second subsets non-identical given accepted concepts of claim interpretation. The recitation in claims 6 and 7 of “a second subset” does not invoke antecedent basis from the preceding term “a first subset”. Interpreting the subsets as the same would read the associated limitation out of the claims. Applicant believes that no claim amendment to that effect is necessary.

However, the Applicant stipulates two items with regards to claims 6 and 7. First, claims 6 and 7 do not preclude the addition of a base station so that the overall telecommunications system includes an odd number of base stations. The open-ended transitional term “comprising” allows the telecommunications system to include an odd number of base stations greater than two, so long as an even number of “n” base stations

satisfies the claim. Second, that the first and second subsets of base stations are not identical does not impute mutual exclusivity to the subsets vis a vis one another. The claim language recites only non-identical subsets, which is minimally satisfied when only a single base station is not common to both subsets.

The rejection under 35 U.S.C. § 112 being the only one asserted against claims 6 and 7, Applicant respectfully requests the Examiner withdraw that rejections and allow claims 6 and 7 as herein amended.

3. Rejections under 35 U.S.C. § 102:

Haartsen is directed to a mobile assisted handover between base stations, wherein a mobile terminal receives beacon transmissions from a base station during idle frames. A reference TDMA frame number is exchanged between forwarding and receiving base stations, and if the receiving base station TDMA reference number is to be used, it is forwarded to the mobile terminal on a control channel. See Haartsen, abstract. Applicant contends that the reference fails to anticipate claim 1 for at least two reasons: Haartsen fails to describe that all pertinent information is transmitted within a subset of timeslots of the idle frame, and Haartsen includes no description that the timeslots may be selected without regard to an assigned traffic time slot.

First, Haartsen teaches that a single mobile terminal receives beacon transmissions during every one of the eight time slots of the idle frames while traversing numerous base station cells during a single call, as opposed to a subset of timeslots as recited in claim 1. Specifically, Haartsen describes in the abstract that each time a transfer is made, the TDMA reference number of a receiving base station may be used. Haartsen also teaches at col. 11, lines 44-56, that it is advantageous for beacon transmissions from adjacent base stations to be spread over all eight slots of the idle frame so as to avoid interference. This is an explicit teaching away from claim 1. In that same paragraph, Haartsen further describes that a mobile terminal may scan all eight slots of an idle frame, limited only by technical capacity. Even a mobile terminal of limited technical capacity does not impliedly anticipate the relevant claim 1 language. Claim 1 does not recite that the

mobile station actually receive all pertinent information, but rather that the relevant individual transmissions for a mobile station are arranged over less than all idle frame timeslots. As such, Haartsen's explicit advocacy of using all eight slots of an idle frame at least fail to anticipate, and more particularly teaches away from, transmitting all pertinent information for a mobile station within a subset of timeslots of the idle frame as recited in claim 1.

Additionally, in the teaching of Haartsen, it cannot be known in advance which slots of the idle frame will be used once the mobile terminal is handed off to the receiving base stations. It is for this reason that Haartsen advocates a mobile terminal scanning all eight timeslots, as noted above. If less than the full eight timeslots happen to be used during a call in a system according to Haartsen, it is by happenstance rather than by arranging of individual transmissions, as recited in claim 1.

Second, Haartsen does not appear to include any description, teaching or suggestion that all pertinent information is transmitted in the idle frame timeslots without regard to which traffic timeslot the mobile station is assigned. As shown in Figure 4 of the present invention, designated as prior art, the common practice was for mobile stations to read the base station identity code (BSIC) carried on SCH bursts during the common idle frame. For a particular mobile station, the assigned traffic channel may cause the measurement window to fall outside the common idle frame. Thus, in the prior art, all pertinent information is transmitted to a mobile station within the idle frame for only certain assigned traffic channels; other traffic channels necessarily caused a mobile station to miss a portion of the information. The present invention includes specific teachings as to arranging all pertinent information to be transmitted in the idle frame regardless of assigned traffic channel, and doing so within only a subset of idle frame timeslots to boot.

Assuming *arguendo* that the Haartsen transmissions are within a subset of timeslots of the common idle frame, Haartsen includes no mention of de-linking idle frame time slots from assigned traffic time slots. The Examiner's pinpoint citation to Haartsen, col. 11,

lines 1-18, describes only that the beacon channels of base stations A, B, and C are synchronized within the idle frames of a 26-frame structure. This description of frame synchronization does not specify time slots within the frame. In subsequent paragraphs noted above, Haartsen describes time slots, but does not describe how idle frame time slots are de-linked from assigned traffic time slots. This absence of teaching implies that the idle frame time slots and assigned traffic time slots remain linked as in the prior art. The present application describes the state of the prior art, as summarized above. As such, Applicant contends that the absence of disclosure in Haartsen respecting idle frame time slots vis a vis traffic time slots fails to anticipate that aspect of claim 1.

For at least the above reasons, Applicant respectfully requests the Examiner reconsider the rejection under Haartsen and allow claim 1 as amended herein.

4. Rejections under 35 U.S.C. § 103:

Ritz is directed, in time-hopping embodiments, to re-using a set of N timeslots in adjacent communication sites to provide more than N minimally cross-correlated time hopping communication channels. See Ritz, abstract. Ritz seeks, at col. 1, lines 48-65 and col. 4, lines 42-45, to increase bandwidth capacity in a frequency or time hopping system by reducing a largest (channel) interference within a bandwidth to be closer to an average interference. Conversely, the present invention is directed toward improving communications reliability by eliminating a mobile station's non-reception of a portion of an SCH (or other) message. See Application, page 2, lines 21-28. This difference between bandwidth efficiency of Ritz and communication accuracy of the present invention enlighten the following differences between Ritz and the present claims.

The Examiner characterizes Ritz's description of a time-hopping embodiment, at Figure 6 and col. 13, lines 18 to col. 14, line 30, as teaching or suggesting alternating burst transmissions from individual one of a plurality of base stations as recited in claim 2. Applicant respectfully disagrees. First, the Examiner appears to have conflated the different channels of Ritz with the different bursts within the idle frame of a channel as in claim 2, which the Applicant contends is improper and not obvious to one of ordinary

skill. Second, Applicant contends that Ritz teaches away from claim 1, from which claim 2 depends.

Consistent with the above bandwidth efficiency purpose of Ritz, the time-hopping embodiment distributes transmissions over various channels to separate time slots within a frame. Ritz recites at col. 13, lines 43-46: “[N]one of the channels consistently use the same time slots in the same time frame as any of the other channels. Thus no one channel can continuously interfere with another channel.” Claim 2 recites that the base stations alternate transmission of bursts within the idle frame. Since the idle frame of claim 2 is a singular term, and Ritz does not teach a single frame is divisible among multiple channels, the teachings of Ritz concerning channel interference are not informative in arranging transmissions over a single idle frame. Additionally, transmissions among time slots within a single frame are within the same channel and are thus not interfering signals. One skilled in the art would not look to teachings as to channel interference, as in Ritz, for direction in arranging transmissions from multiple sources (base stations) at different time slots within a single idle frame of a single channel.

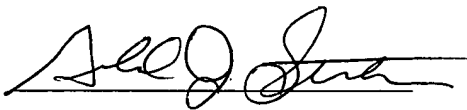
Even if Ritz teaches what the Examiner asserts, the purported combination of Haartsen with Ritz is improper. The particular instance of numerous communications sites, such as base stations, is explicitly considered by Ritz in Figure 7 and associated text. Because Ritz’s goal is to maximize diversity in order to minimize interference, a pairing of channel/slot from site 1 does not match a pairing of channel/slot from site 2. While this approach does alternate slots from different base stations as in claim 2, it achieves maximum diversity (and consequently minimum interference) only by violating the clause “subset of timeslots of the idle frame” in claim 1, from which claim 2 depends. Assuming *arguendo* that Ritz’s teaching of channels is properly imparted to time slots within a channel frame, Ritz necessarily uses every time slot in a frame to maximize diversity, and thereby teaches directly away from the combination asserted by the Examiner. There appears to be no teaching in Ritz to temper that teaching to use less than all available time slots. It appears that Haartsen and Ritz could only be combined as

the Examiner suggests by improperly using hindsight focused by the teachings of the present application. As such, Applicant contends that the combination of Haartsen with Ritz, even if proper, does not teach or suggest the invention as claimed in claims 2, 3, or 4. For at least the above reasons, Applicant respectfully requests the Examiner reconsider the rejections to claims 2-4, which depend from claim 1 amended herein, and allow them as originally filed.

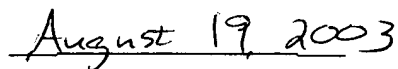
The above arguments respecting Ritz and Haartsen are repeated concerning the rejection to claim 5. Claim 5 explicitly recites that the base stations transmit SCH bursts, further indicating a single channel. Ritz is related to multiple channels as detailed above. Applicant requests the Examiner allow claim 5 as amended herein.

Applicant submits that the above detailed arguments successfully traverse each and every outstanding rejection. Applicant respectfully requests that the Examiner withdraw all rejections and pass claims 1-7 to issuance without further delay, and invites the Examiner to discuss any remaining concerns that may arise with the undersigned representative via telephone if appropriate.

Respectfully submitted:



Gerald J. Stanton
Reg. No.: 46,008



Date

Customer No.: 29683
HARRINGTON & SMITH, LLP
4 Research Drive
Shelton, CT 06484-6212
Phone: (203) 925-9400
Facsimile: (203) 944-0245
Email: gstanton@hspatent.com

Appl. No. 09/476,500
Amdt. Dated August 19, 2003
Reply to Office Action of March 19, 2003

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

8/19/2003
Date


Name of Person Making Deposit